

WHAT IS CLAIMED IS:

1. A method of recording information on an information medium which has a data area for recording stream data using stream packets each of which includes an application packet area containing one or more application packets with time stamps, and a management area for recording management information that pertains to the stream data, said method comprising:

distributing the stream data to the application packet areas in the stream packets so that the distributed stream data are recorded in the application packet areas,

wherein information recording is performed such that a start portion of the application packet area included in a first one of the stream packets of the stream data matches a first byte of the time stamp appended to a first one of the application packets in the application packet area.

2. A method of recording information on an information medium which has a data area for recording stream data using stream packs each of which includes an application packet area having one or more application packets with time stamps, and a management area for recording management information that pertains to the stream data, said method comprising:

distributing the stream data to the application packet areas in the stream packs so that the

distributed stream data are recorded in the application packet areas; and

5 when a blank portion is present at an end of the application packet area, providing a stuffing area formed of a predetermined number of bytes in the blank portion.

10 3. A method of recording information on an information medium which has a data area for recording stream data using stream packs each of which includes an application ~~packet~~ area having one or more application packets with time stamps, and a management area for recording management information that pertains to the stream data, said method comprising:

15 distributing the stream data to the application packet areas in the stream packs, and recording the distributed stream data in the application packet areas; and

20 as a result of recording the distributed stream data, if a blank portion of one or more of the stream packs appears between an end of a last one of the stream packs that actually contains the stream data, and an end of the data area for recording the stream data, then recording a stuffing packet in the blank portion.

25 4. An information recording method using an information medium which has a data area for recording stream data using data packets and data units each

being larger than the data packet, and a management area for recording management information that pertains to the stream data, said method comprising:

5 constituting the stream data by a plurality of the data units;

constituting each of the data units by one or more data packets each of which records predetermined time stamp information; and

10 recording, in the management area, at least a time difference value corresponding to a difference between a first time stamp recorded in a first data unit and a second time stamp recorded in a second data unit, said first and second data units being included in a plurality of said data units.

15 5. A method according to claim 4, wherein the time difference value is determined by rounding to a predetermined number of effective digits a difference between a time information value corresponding to the second time stamp and a time information value  
20 corresponding to the first time stamp.

6. A method according to claim 4, wherein a value of a first time stamp recorded in a first one of the data packets located in the data unit is used to compute the time difference value.

25 7. A method according to claim 4, wherein a time stamp recorded in the data packet at an end of a last one of the data units included in the stream data

indicates an arrival time of a last one of the data packets in the last data unit, and the arrival time of the last data packet is used to compute the time difference value.

5           8. An information recording method using an information medium which has a data area for recording stream data using data packets and data units each being larger than the data packet, and a management area for recording management information that pertains  
10 to the stream data, said method comprising:

recording information of one or more cells in the stream data;

recording, in the management area, program chain information that describes a set of one or more of the  
15 cells; and

recording, in the management area, information of an entry point which can be used as a marker of a skip position upon partially skipping recorded contents of the stream data in playback.

20           9. A method according to claim 8, wherein the management area includes stream object general information which includes at least one of recording time information of the stream data, a data packet arrival time of a start portion of the stream data, and  
25 a data packet arrival time of an end portion of the stream data.

10. A data structure which has a data area for

recording stream data using predetermined data recording units, and a management area for recording management information that pertains to the stream data, wherein

5 a plurality of stream packs, each of which contains one or more of the data recording units with time stamps, are provided, and the stream data are distributed to these stream packs,

10 each of the stream packs contains a pack header and a stream packet, and

a start portion of an application packet area included in a first one of the stream packets of the stream data matches a start byte of the time stamp appended to a first one of the data recording units in the application packet area.

15 11. A data structure according to claim 10, wherein the stream packet includes a stuffing byte of a variable length including zero byte length, and the application packet area including one or more of the data recording units with time stamps.

20 12. A data structure which has a data area for recording stream data using data packets and data units each being larger than the data packet, and a management area for recording management information that pertains to the stream data, wherein

25 the stream data are distributed to application packet areas each including one or more of the data

packets, and

when a blank portion is present at an end of the application packet area, a stuffing area formed of a predetermined number of bytes is provided in the blank portion.

13. A data structure according to claim 12, wherein if a blank portion of one or more stream packs appears between an end of a last one of the stream packs that actually contains the stream data, and an end of the data area for recording the stream data, then a stuffing packet is recorded as padding data in the blank portion.

14. A data structure which has a data area for recording stream data using data packets and data units each being larger than the data packet, and a management area for recording management information that pertains to the stream data, wherein

the stream data includes a plurality of the data units,

each of the data unit includes one or more of the data packets each recording time stamp information, and

a time difference value corresponding to a difference between a first time stamp recorded in a first data unit and a second time stamp recorded in a second data unit is recorded in the management area, said first and second data units being included in said data units.

15. A data structure according to claim 14,  
wherein the time difference value is determined by  
rounding to a predetermined number of effective digits  
a difference between a time information value  
5 corresponding to the second time stamp and a time  
information value corresponding to the first time stamp.

16. A data structure according to claim 14,  
wherein a value of a first time stamp recorded in a  
first one of the data packets located in the data unit  
10 is used to compute the time difference value.

17. A data structure according to claim 14,  
wherein a time stamp recorded in the data packet at an  
end of a last one of the data units included in the  
stream data indicates an arrival time of a last one of  
15 the data packets in the last data unit, and the arrival  
time of the last data packet is used to compute the  
time difference value.

18. A data structure which has a data area for  
recording stream data using a data packet and a data  
20 unit larger than the data packet, and a management area  
for recording management information that pertains to  
the stream data, wherein

one or more pieces of cell information are  
recorded in the stream data,

25 information of a program chain that describes a  
set of one or more cells is recorded in the management  
area, and

the management information includes information of an entry point which can be used as a marker of a skip position upon partially skipping recorded contents of the stream data in playback.

- 5           19. A data structure according to claim 18, wherein the management area includes stream object general information which includes at least one of recording time information of the stream data, a data packet arrival time of a start portion of the stream data, and a data packet arrival time of an end portion of the stream data.
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